

CLAIMS

What is Claimed is:

1. A method for displaying digital content comprising:
using a first tuner to access a first transport stream associated with a first frequency;
displaying in a main picture area of a display screen, a program associated with said first transport stream;
using a second tuner during spare periods to access a second transport stream associated with a second frequency;
decoding digital content from said second transport stream and caching said digital content into a memory buffer; and
upon said first tuner being switched to a new channel associated with said program information stored in said memory buffer, recalling said digital content for use in providing a fast channel change operation to said new channel.
2. A method as described in Claim 1 wherein said second tuner is normally dedicated to picture-in-picture rendering on said display screen.
3. A method as described in Claim 2 wherein said digital content comprises table information associated with said second transport stream.

4. A method as described in Claim 3 wherein said table information is derived from a program association table that is encoded in said second transport stream.
5. A method as described in Claim 2 wherein said digital content comprises decoded I frames of said new channel.
6. A method as described in Claim 2 further comprising:
 - using said second tuner to scan through a plurality of frequencies over time to access a plurality of transport streams;
 - decoding digital content from said plurality of transport streams; and
 - caching said digital content decoded from said plurality of transport streams in said memory buffer.
7. A method as described in Claim 1 wherein said first transport stream and said second transport stream are the same and wherein said first frequency and said second frequency are the same.
8. A method as described in Claim 2 wherein said digital content cached to said memory buffer is associated with a channel that is a predicted next channel which is predicted based on previous channel selections.
9. A method for displaying digital content comprising:
 - using a first tuner to access a first transport stream associated with a first frequency;

displaying in a main picture area of a display screen, a program associated with said first transport stream;

using a second tuner to access a second transport stream associated with a second frequency;

decoding first digital content from said second transport stream and caching said first digital content into a memory buffer;

using a third tuner to access a third transport stream associated with a third frequency;

decoding second digital content from said third transport stream and caching said second digital content into said memory buffer; and

upon a channel change to a new channel associated with said second or third tuner, recalling digital content from said memory buffer for use in providing a fast channel change operation to said new channel.

10. The method of Claim 9 wherein said second tuner is normally dedicated for picture-in-picture rendering on said display screen.

11. A method as described in Claim 9 wherein in response to a channel change to said third tuner, performing the following:

using said third tuner to access said third transport stream;

displaying in said main picture area of said display screen, said new channel associated with said third transport stream;

using said first tuner to access a fourth transport stream associated with a fourth frequency; and

decoding digital content from said fourth transport stream and caching said digital content into said memory buffer.

12. A method as described in Claim 9 wherein said digital content comprises decoded I- frames of said new channel.

13. A method as described in Claim 12 wherein said digital content further comprises table information associated with said third transport stream.

14. A method as described in Claim 9 further comprising:
using said third tuner to scan through a plurality of frequencies over time to access a plurality of transport streams;
decoding digital content from said plurality of transport streams; and
caching said digital content decoded from said plurality of transport streams to said memory buffer.

15. A method as described in Claim 9 wherein said second digital content cached to said memory buffer is associated with a channel that is a predicted next channel which is predicted based on previous channel selections.

16. A method as described in Claim 15 wherein said first digital content cached to said memory buffer is associated with another channel that is a predicted next channel which is predicted based on previous channel selections.

17. A method for displaying digital content comprising:

using a first tuner to access a first transport stream associated with a first frequency;

displaying in a main picture area of a display screen, a program associated with said first transport stream;

using a second tuner to access a second transport stream associated with a second frequency;

decoding table information from said second transport stream and caching said table information into a memory buffer, said table information comprising program identifications for programs of said second transport stream; and

upon a channel change to a new channel associated with said second transport stream, recalling said table information for use in providing a fast channel change operation to said new channel.

18. A method as described in Claim 17 further comprising:

decoding I-frames associated with programs of said second transport stream;

and

caching said I-frames to said memory buffer; and

upon said channel change to said new channel, also recalling cached I-frames for use in providing said fast channel change operation to said new channel.

19. A method as described in Claim 17 wherein said second tuner is normally dedicated to picture-in-picture rendering on said display screen.

20. A method as described in Claim 17 further comprising:
using said second tuner to also scan through a plurality of frequencies over time
to access a plurality of transport streams; and
decoding and caching a plurality of table informations from said plurality of
transport streams to said memory buffer.
21. A method as described in Claim 17 wherein said new channel is a
predicted next channel predicted based on prior channel selections.
22. A method as described in Claim 17 wherein said first transport stream and
said second transport stream are the same.
23. A method for displaying digital content comprising:
using a first tuner and a first decoder to access and decode a first transport
stream associated with a first frequency;
displaying in a main picture area of a display screen, a program associated with
said first transport stream;
using a second decoder to decode a second program;
upon a channel change to a new channel associated with said second program,
using said second decoder to display in said main picture area of said display screen
said second program to provide a fast channel operation to said new channel.
24. A method as described in Claim 23 wherein said first transport stream
comprises said second program.

25. A method as described in Claim 23 wherein said second decoder is a spare decoder and wherein said second program is a predicted next program.

26. A method as described in Claim 23 wherein said second program is associated with a second transport stream and further comprising: using a second tuner to access said second transport stream.

27. A method as described in Claim 23 further comprising:
using a second tuner and a third decoder to access and decode a second transport stream associated with a second frequency; and
displaying in a picture-in-picture area of a display screen, a program associated with said second transport stream.

28. A method as described in Claim 26 further comprising:
using a third tuner and a third decoder to access and decode a third transport stream associated with a third frequency; and
displaying in a picture-in-picture area of a display screen, a program associated with said third transport stream.

29. A method as described in Claim 26 wherein said second program is a predicted next program further comprising:
using a third tuner and a third decoder to access and decode a third program wherein said third program is a predicted next program.